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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Revision of the Commission's Rules) CC Docket 94-102
To Ensure Compatibility with)
Enhanced 911 Emergency Calling Systems)

**COMMENTS OF
SBC WIRELESS INC.**

SBC Wireless Inc. (SBC Wireless) makes this filing in response to the Commission's request for comments regarding an *ex parte* dated September 17, 1998 by the Ad Hoc Alliance for Public Access to 9-1-1 (Ad Hoc Alliance).¹ For over two and a half years the Ad Hoc Alliance has strenuously advocated that the Commission adopt a "strongest signal requirement" whereby a cellular handset would be required to scan both cellular bands and then choose the strongest signal and complete the call on the appropriate channel.² In September 1996 the Ad Hoc Alliance filed a report on the feasibility of its proposal prepared by the Trott Communications Group. The 1996 Trott Report concluded that the "strongest signal requirement" is "achievable with very little impact on the equipment manufacturer, while providing the benefit of the best possible reliability to the user and the providing the closest cell site information to the PSAP".³ The 1996 Trott Report also concluded that the change "will also benefit the PSAP by

¹ Public Notice, Additional Comment Sought, Wireless 9-1-1 "Strongest Signal" proposal Filed by Ad Hoc Alliance for Public Access to 9-1-1, CC Docket 94-102 (Dated Sept. 22, 1998).

² See, e.g., Reply Comments of the Ad Hoc Alliance for Public Access to 9-1-1, January 16, 1996; Comments of the Ad Hoc Alliance for Public Access to 9-1-1 Concerning the Further Notice of Proposed Rulemaking, CC Docket 94-102 (Filed, September 25, 1996) ("Ad Hoc Alliance Sept. 25, 1996 Comments").

³ Feasibility of Selecting the Strongest Compatible Cellular Signal, Report Prepared for Ad Hoc Alliance for Public Access to 9-1-1 by Trott Communications Group, Inc. August 28, 1996, p. 4, Attached to, Ad Hoc Alliance Sept. 25, 1996 Comments).

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minimizing the probability of dropped or uncompleted calls”.⁴ Examination of the “strongest signal proposal” indicated that it caused significant concerns including detrimental impacts on call origination success rates and call set-up times.⁵ The concerns were shared by the cellular industry, the National Emergency Number Association (NENA) and the Association of Public Safety Communications Officials International, Inc (APCO).⁶

In its September 17, 1998 *ex parte*, the Ad Hoc Alliance now suggests that the Commission should instead require analog cellular handsets to have the functionality to scan for the strongest signal if the signal from the users provider is “inadequate” when a 9-1-1 call is placed. Ad Hoc Alliance once again uses the Trott Communication Group as support of its proposal. The Trott Group prepared a six-page report claiming that a threshold gate of -80dBm should be used to indicate when the handset should seek the strongest signal. The Trott Group also again opined that adding the functionality to the handset during the manufacture process could be done “easily and inexpensively”.

Ad Hoc Alliance’s decision to move away from the “strongest compatible signal” proposal and to seek more workable alternatives is a step in the right direction. The question is whether the Ad Hoc Alliance’s modified proposal is a workable alternative—seemingly it is merely the “strongest signal” proposal with a threshold included as to when the “strongest signal” approach is used. SBC Wireless is concerned that once again

⁴ *Id.*

⁵ *See, Ex Parte Presentation of the Cellular Telecommunications Industry Association and Attachments thereto*, Letter of Brian F. Fontes to Chairman Kennard dated June 3, 1998, filed June 4, 1998, in CC Docket 94-102.

⁶ *See, Ex Parte Submission of the National Emergency Number Association, Association of Public Safety Communications Officials International, Inc., and National Association of State Nine-One-One*

the claims of how easily and inexpensively the alternative can be implemented and the potential impact have not been fully explored. As was proved useful in evaluating the “strongest compatible signal”, the modified proposal should be examined by the appropriate standards groups to assess its feasibility, especially the ability of handsets to calculate signal strength in terms of dBm and whether -80 dBm is an appropriate threshold. Any examination should also once again include an analysis of whether the proposal will cause any adverse effects on call set up time or call origination success rates.

If the proposal or some modification thereof is determined to be feasible and adopted by the Commission, it should be implemented through the manufacturing process as indicated in the six page August 19, 1998 Trott Report. In adopting any proposal Commission should seek input from manufacturers to set an appropriate date and require that any phone manufactured after such date include such functionality. By implementing the proposal as a “manufactured after a particular date” requirement the Commission does not force inventory to become obsolete and does not cause existing handsets to become worthless as trade-ins.

I. The Latest Ad Hoc Alliance Proposal, Like Its Initial Proposal, Should Not Be Adopted Until Its Feasibility is Fully Analyzed.

As CTIA and other industry groups have demonstrated the original Trott Communications supported Ad Hoc Alliance “strongest signal” proposal, while possibly inviting at first glance to the lay-person, contained pitfalls that would have detrimentally

Administrators. Letter from James R. Hobson to Magalie Roman Salas dated and filed February 23, 1998 in CC Docket 94-102.

affected the provision of 9-1-1 service if implemented.⁷ Thus, the proposal drew the concern of NENA and APCO.⁸ The Ad Hoc Alliance has thus modified its proposal to an “adequate signal strength threshold” proposal. The feasibility and effect of the “adequate signal strength proposal” likewise should be thoroughly reviewed by the appropriate standards groups, the wireless industry (including manufacturers) and the public safety community. While the Ad Hoc Alliance urges the Commission to “move expeditiously in the process of implementing rules to reach this important policy objective”⁹ the pitfalls associated with the “strongest signal” proposal demonstrate that the Commission should not proceed without a full analysis of the proposal.

The Ad Hoc Alliance proposal is that a level of –80 dBm be set as a “minimum level of signal strength at the cellular handset necessary for ‘good’ communication” or “adequate signal” with anything less than –80 bBm at the handset being an “inadequate signal”.¹⁰ Under the new Ad Hoc Alliance proposal anything less than –80 bBm would be considered inadequate and the handset would then search for the strongest signal.¹¹ Thus, the modified Ad Hoc Alliance proposal is merely putting a “threshold” for when the handset starts to search for the “strongest signal”. The proposal thus seemingly is susceptible to many of the same pitfalls of the previous “strongest signal” proposal, especially if the “threshold” is in effect an adequate signal.

The –80 dBm threshold set by Trott does not seem to be truly indicative of the cutoff point of an adequate signal strength. The methodology used by Trott concerning

⁷ See, fn. 5 and fn. 6.

⁸ See, fn. 6.

⁹ Ad Hoc Alliance September 17, 1998 *Ex Parte*.

¹⁰ *Id.*

¹¹ *Id.*

hand-off boundaries is particularly concerning. Trott uses adequate signal strength at a hand-off boundary of -95 dBm as a reference point. Trott claims however that because the antenna on a portable is 6 dB worse than an antenna mounted on an automobile, -6 dB must be subtracted (i.e. added) to account for a portable phone antenna (-95 dBm - {-6} dB=-89 dBm.¹² All that this seemingly shows is that -89 dBm is simply what a vehicular antenna must receive for a portable to receive -95 dBm—what the portable receives at such location is still -95 dBm. Likewise, the exercise Trott goes through in Issue 2 of the August 19, 1998 report to reach the -80 dBm threshold simply shows that for a portable phone to receive a -95 dBm (hand-off boundary) signal, the automobile mounted antenna seemingly receives a -80 dBm signal, assuming Trott's margins for other losses are correct.¹³ Again, the threshold factor as to what constitutes a "good signal" is the key component of the Ad Hoc Alliance's modification because, if the threshold results in "good" signals being deemed "inadequate", all the pitfalls of the "strongest signal" requirement remain. In effect, the Commission may be mandating that the handset scan and choose the "strongest signal" despite the fact that an adequate channel was available using the customer's carrier. SBC Wireless is not satisfied that the Trott Report's conclusion of -80 dBm is correct. If the general premise of the Ad Hoc Alliance is feasible, the determination and recommendation of any such standard to the Commission should be by the appropriate standard setting groups with full discussion and input from all entities.

¹² August 19, 1998 Trott Report, p.3.

¹³ Id., pg. 3-5.

Fundamentally as troubling is the statement by the Ad Hoc Alliance that the “cellular handset can be easily and inexpensively modified to select the strongest signal if a “good” signal (based on the –80 dBm threshold) is not available from the users provider”.¹⁴ The Ad Hoc Alliance states that its conclusion is supported by the August 17, 1998 Trott Report “which provides a detailed analysis leading up to the above conclusions”.¹⁵ The “detailed analysis” allegedly supporting such conclusion on the ease and inexpensive nature of modifying the handsets is one paragraph on page six of the six-page Trott report.¹⁶ The one paragraph fails to mention any handset manufacturer that was consulted and seemingly draws its conclusion from an assumption that cellular telephones already calibrate the RSSI measurement strengths. It then presumes that “enhancing” this already “existing task should not exceed several weeks of program development” and that “there is no additional costs involved in loading it into each handset during manufacture”.¹⁷ Obviously, the handset manufacturers are in the best position to opine on how much program development and cost would be associated with the proposed change. SBC Wireless questions the assumption that analog cellular phones today already measure RSSI in terms of dBm. SBC Wireless and its research affiliate, SBC Technology Resources Inc. is unaware of any manufacturer who uses a signal strength measurement in terms of a set dBm level at the handset to switch to the alternative carrier. Further, the functionality must be designed such that it operates when

¹⁴ Ad Hoc Alliance September 17, 1998 *Ex Parte*, pg. 1.

¹⁵ Id.

¹⁶ August 19, 1998 Trott Report, p.6.

¹⁷ Id.

only particular digits are dialed (i.e. 9-1-1)—something that few handsets today recognize as requiring special treatment.¹⁸

Given the concerns with the Ad Hoc Alliance's modified proposal SBC Wireless cannot support its immediate adoption. Rather, the proposal should be submitted to the appropriate standards groups and industry working groups (including input from manufacturers) for examination and recommendation or modification. The Commission should not rush to judgement based on the present record.

II. Any Requirements Should Be Applicable to Handsets Manufactured After a Particular Date.

Any requirements adopted by the Commission regarding handset functionality should be applicable to handsets "manufactured after" a particular date. Presumably, manufacturers will have input into any requirements adopted by the Commission and will have estimated what is needed to develop the functionality to comply with the requirements. The Commission should not make a decision that would instantly make existing inventory or handsets in the hands of cellular subscribers obsolete. This is especially true given the availability of refurbished handsets that allow low cost reliable entry into cellular for hundreds of thousands of consumers. Likewise, consumers should have the opportunity to trade existing handsets in on upgrades on equipment—their handsets should not become worthless because of any Commission mandate. Thus, any requirements imposed on handset functionality should be applicable prospectively to handsets manufactured after a date certain.

¹⁸ See, e.g., Letter dated June 2, 1998 from Paul Wilkinson, Vice-President Cellular Engineering & Service to Ad Hoc Alliance for Public Access to 9-1-1 describing AudivoxMVX505 phone functionality of being able to override system block programming when 9-1-1 is dialed. Attached to CTIA June 3, 1998 *ex parte*, *See, fn. 5*.

CONCLUSION

For the reasons stated herein SBC Wireless cannot support the immediate adoption of the proposal submitted in the Ad Hoc Alliance's September 17, 1998 *ex parte*. The Commission should not act until the appropriate standards groups and industry-working groups have had an opportunity to fully analyze the proposal. Any ultimate requirements for handset functionality should be prospective only and be applicable to handsets manufactured after a date certain.

Respectfully Submitted,

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Certificate of Service

I, hereby certify that I have on this 7th day of October, 1998, I served copies of the foregoing Comments of SBC Wireless, Inc., by first-class mail, postage prepaid, or otherwise hand-delivered to the parties below.



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Dated: October 7, 1998

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